Cancel claims 1-10 and 21-29.

REMARKS

The instant amendment combines the limitations of claims 11, 27 and 29. All other claims have been cancelled.

The claim is now directed to a **multi-layer foil** comprising a **copper** metal layer having a **shiny surface**, and an electrically resistive composite material layer on the copper metal layer shiny surface wherein the electrically resistive composite material layer includes from about **0.01 to about 99.9 area % of nickel** and from about **0.01 to about 99.9 area % of particles of alumina**; which multi-layer foil is formed by **codepositing** the alumina and the nickel onto the copper metal layer shiny surface by **electrodeposition** and wherein the electrically resistive composite material has a **resistivity of from about 1 to about 10,000 ohms/square.** No prior art teaches or suggests such a foil.

Claims 1-5 stand rejected under 35 U.S.C. 102 (b) over Grazen. These claims have been cancelled.

Claims 1-3, 5-6, 8, 11, 22-24 and 27-28 stand rejected under 35 U.S.C. 102 (b) over Dash. Claims 1-3, 5-6, 8, 22-24 and 27-28 have been cancelled. Claim 11 now includes the limitations of claim 29. Therefore, this ground of rejection has been eliminated.

Claims 1-11 and 21-29 stand rejected under 35 U.S.C. 102 over Hunt, et al. Claims 1-10 and 21-29 have been cancelled. Claim 11 now represents the combined limitations of claims 11, 27 and 29. It is submitted that such is not anticipated by Hunt, et al.

Hunt teaches a method of depositing a resistive material on an **insulating** surface. See the abstract as well as column 5, lines 28-29, and column 28, lines 1-15. Such may be

polymers such as polyimides, epoxy/fiberglass or liquid crystals. Further, the depositing is not done by electrodeposition, but rather by combustion chemical vapor deposition.

According to the amended claims, the electrically resistive composite material is formed by codepositing alumina particles and nickel onto the **shiny** side of a **copper** substrate by electrodeposition. Such is not taught by Hunt et al wherein no copper shiny side is mentioned and no electrodeposition is done. It is therefore respectfully submitted that the 35 U.S.C. 102 rejection has been overcome.

Claims 4, 7, 26 and 29 stand rejected under 35 U.S.C. 103 over Dash in view of Grazen. These claims have been cancelled.

Claims 1-11 and 21-29 stand rejected over XP-002121182 in view of Hunt, et al and further in view of Grazen or Dash. It is submitted that this ground of rejection is not well taken or has been obviated in view of the instant amendment. XP'182 forms a resistive layer by electrodepositing **boron nitride** and nickel. In contrast, the amended claims require deposition of **alumina** and nickel. Further, the examiner has previously admitted that XP-002121182 fails to teach a foil having a copper substrate. The arguments over Hunt, et al are repeated from above. Hunt teaches a method of depositing a resistive material on an **insulating** surface such as polymers, e.g. polyimides, epoxy/fiberglass or liquid crystals. Further, the depositing is not done by electrodeposition, but rather by combustion chemical vapor deposition. The combination of XP-002121182 in view of Hunt, et al would not suggest codepositing alumina particles and nickel onto the **shiny** side of a **copper** substrate by electrodeposition. Dash has nothing to do with the deposition of nickel, since nickel is not even mentioned. Dash also does not pertain to multilayered foils and do not suggest codepositing onto the **shiny** side of a copper substrate. Grazen pertains to protective coatings on tools and mechanical parts rather than resistors on multilayered foils. No copper substrate is taught, much less a copper substrate having a shiny side. Grazen does not pertain to multilayered foils and do not suggest codepositing onto the **shiny** side of a copper substrate. None of the cited

references XP-002121182, Hunt, et al, Grazen or Dash alone or in combination suggest electrodepositing nickel and alumina onto the **shiny** side of a copper substrate.

XP-002121182 does not mention alumina or a copper substrate.

Hunt. et al. does not form an electrodeposited layer and does not mention a **shiny** side of a copper substrate.

Grazen pertains to protective coatings on tools and mechanical parts rather than resistors on multilayered foils and no copper substrate is taught.

Dash does not pertain to multilayered foils and do not suggest codepositing onto the **shiny** side of a copper substrate.

Hence it is submitted that the combination of these references do not even hypothetically form the multilayered foil according to the amended claims. It is therefore respectfully submitted that the 35 U.S.C. 103 rejection has been overcome.

The undersigned respectfully requests re-examination of this application and believes it is now in condition for allowance. Such action is requested. If the examiner believes there is any matter which prevents allowance of the present application, it is requested that the undersigned be contacted to arrange for an interview which may expedite prosecution.

Respectfully submitted,

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I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office (FAX No. 703-308-7722) on February 21, 2002.

Richard S. Roberts

APPENDIX

MARKED-UP COPY OF AMENDED CLAIMS

11. (Amended) A multi-layer foil comprising a copper metal layer having a shiny surface, and an electrically resistive composite material layer [associated with] on the copper metal layer shiny surface wherein the electrically resistive composite material layer includes from about 0.01 to about 99.9 area % of [a conductive metal other than copper] nickel and from about 0.01 to about 99.9 area % of particles of alumina; which multi-layer foil is formed by codepositing the [electrically non-conductive particulate material] alumina and the [electrically conductive material] nickel onto the copper metal layer shiny surface by electrodeposition and wherein the electrically resistive composite material has a resistivity of from about 1 to about 10,000 ohms/square.

Cancel claims 1-10 and 21-29.